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*CORRECTIONS of Mr. GUILDING's Paper on Insects that
infest the Sugar Cane,*

Inserted in Vol. XLVI. p. 143, &c.

As the translation of the characters was made in England, and Mr. Guilding had no opportunity of correcting his paper in its progress through the press, he wishes to make the following additions and corrections in his communication to the Society.

Page 143, lines 3 and 4 from the bottom, for clavola, &c. read joints eight or nine; scapus very long, cylindrical, as long as the clavola.

*Page 144, line 8, for sola read solea; and after vestita add *Ovum ignotum. Larva vermiformis, obesa, apoda: ano declivi, motum adjuvante. Caput magnum, solidum: mandibulis validis. Nympha folliculata, capite recumbente. Spiracula pectoralia maxima: adminiculis sparsis, femorumque setis motum adjuvantibus dum declaratur imago.*

Line 22, after anteriorly insert into a collar.

Line 28, for soles read sole.

Page 145, line 6, add longitudo corporis 1 un. 9 lin.

- * *After clothed, note, 4 lines from the bottom, add Egg not observed. Larva vermiform, swollen, without feet; anus sloping, aiding its motion by pressure against resisting substances; head large, solid; jaws powerful; nymph enclosed in a case, with the head bent down on the breast. The spiracula of the breast of unusual size. The imago, at its metamorphosis, deriving assistance from the numerous scattered spinules and the bristles of the thighs.*

Page 145, line 7, for flavum read flava.

Two last lines, for in this colony affording shelter, read usually in this stage affording shelter within to, &c.

Page 146, line 4, read nearly all somewhat magnified.

Line 9, after larvæ insert known by the name of Gru-gru worms.

Line 25, for sugar read sugar-cane.

Page 147, line 3, for papillata read pupillata.

Line 13, for apici read apice.

Line 22, add compare also Curculio variegatus Oliv. n. 83, pl. 13, f. 158, and Calandra variegata Fabr. The description of the latter author agrees tolerably well with this insect, though the Fabrician specimen was from the Cape.

Line 24, after with yellow insert punctures of the striæ with a central pupil.

Line 24, for rostrum yellow read rostrum black.

Line 25, for chest read pulmonaria.

Page 148, line 4, add it approaches the curious genus Melia of Curtis, t. 201. The latter may, however, be easily distinguished from Diatrea by its shorter palpi, and the very singular construction of the terminal articulation. The species I have figured may prove to be the Crambus sacchari of the Supplement of Fabricius, and the Phalæna saccharalis of the Ent. Syst. t. 3.*

Line 16, for minus read minores.

Line 17, after culcita insert as the termination of my paper was not printed, it is necessary a note should be here inserted, without which many of the figures of the last plate will not be understood. For the sake of illustration, I have represented f. 6, the culcita or thumb, in the fore leg of a large sphinx. It is commonly an elongate velvet pad, deeply inserted by one of its extremities in a depression of the

* A term already applied to a genus of plants, and therefore to be abandoned.

tibia, and is used in cleaning the compound eyes of the Lepidoptera. At f. 7 it is seen *in situ*, denuded to shew the mode of insertion: f. 8 shews the organ detached and reversed. I have here also drawn an organ, occupying nearly a similar situation in the anterior tibiæ of orthopterous insects, which I have called *scutula*. Its use is altogether unknown to me, though I have carefully examined the largest species of the tropics. It occurs in every species and in each sex of every subgenus of those insects which Fabricius united under the misapplied name of *Locusta*; also variously modified in the *Achetadæ* (Guild.), and in *Gryllotalpa*. In *Cónocephalus* (Leach), f. 9, the openings are anterior, with swollen margins. In *Pterophylla* (Kirby), the tibia is gibbous and the openings lateral. In *Acheta* (*Gryllus Guild.*) the foramina are closed by a membrane, and one of them is sometimes obsolete.

Page 148, line 19, for flocculiferi read flocculiferæ.

Line 23, dele than the stem, and insert scapus robust.

Lines 29 and 30, read lower wings folded and smaller.

Page 149, line 5, after sigillis insert this new term is applied to two well-defined, seal-like, scabrous elevations, to be found on the mesothoracic portion of the cytotheca of these pupæ. In *Sphinx ficus* they are transverse, and seated on the metathoracic division. Their position and appearance is curious: they do not appear to cover any organs beneath, nor is their use known.

After line 12 insert it inhabits the stalk of the sugar-cane, which it perforates. Occasionally occurring in countless numbers, it destroys whole acres of the plant.

Descriptio.

**Alæ superiores longitudinales crebrò plicatulæ: omnes lon-*

- * *Upper wings* as it were longitudinally crumpled; all of them with a margin of long hairs, and pale on their under side. The *fibula* (or

gissimè ciliatæ, subtùs pallidæ. *Fibula* completa. *Tendo* (Kirby) biradiatus. *Retinaculum* hirsutum.

Larva flavescens, nigro maculata, maculis setigeris. *Caput* collumque ferruginea. *Pseudocardia* flavida, maculis lateralibus lividis.

Pupa ferrugineo-flava; *capite* bicorni; *ano* anguloso-spinoso.

Page 149, line 17, dele thoracic feet, &c. *to* lengthened.

Line 25, for bristles *read* hooks.

Line 28, for sigillæ *read* sigilla; *for* bristles *read* spinules.

Page 150, line 3, for *b b* *read* *b*.

Line 5, read 7, the culcita magnified and denuded; 8, the same shewn separate, and reversed.

Since my first communication to the Society, I have been able to make a trifling addition to the list of insects which destroy the sugar-cane. When on a visit to the island of Bequia, about nine miles from St. Vincent, I was taken to a field which had suffered in a very extraordinary manner from a countless host of the larvæ of *Sphinx labruscæ* Fabr. so beautifully figured in the Zoological Illustrations of Mr. Swainson, and rudely engraved, in all its stages, in the work of Madam Merian on the insects of Surinam. This species does not inhabit our group of islands, nor was it ever known to be injurious before. I have no doubt that a few pregnant

clasp) perfect; its *spring* composed of 2 branches, the *catch* consisting of stiff hairs.

Larva, &c. as in line 14, to livid.

Pupa rusty yellow; *head* with two prominences; the *anus* angulated and spinous.

females were blown by the currents of the atmosphere from the coast of Demerara, (whence I have received this species), and thus became the authors of the unexpected mischief.

It has been said, that the Chenille, so fatal to cotton plantations, apparently commits its greatest ravages in a few hours. The same fact was observable here. Though these larvæ must have required a long time to attain their greatest size, they were not visible till nearly ready for their metamorphosis, at which time they may possibly become much more voracious, and thus complete the work of destruction, the progress of which could not be detected so long as any foliage remained to conceal the destroyers. I know of no other way of accounting for this long concealment and apparently sudden attacks, unless with one consent they change their food, and migrate in bodies from the surrounding spots. They were first noticed at the beginning of July 1828. The manager, on riding early round the estate, found, to his great astonishment, that two acres of his cane plants had vanished in a single night, as if by magic. Upon examination, he found on each root two or three of these larvæ, which had eaten down the blades. Most of them were fully grown. On this space thousands were to be seen, though they did not extend their ravages to the other fields. The poor planter was naturally terrified at the prospect before him, but was happily soon set at ease: in two days all had disappeared. The innumerable blackbirds, which are usually persecuted and destroyed for their persevering attacks upon the maize gardens, here came to his assistance, and devoured his dreaded enemies. The canes, in a short time, sprang up

again, and did not suffer materially; though the half-devoured, mutilated blades had at first but an unpromising look.

On the neighbouring plantation, at the same period, innumerable companies of an undetermined larva laid waste the cane-fields. Though smaller than the other grubs, from attacking the heart of the cane-plant as well as the blades, the injury was much more serious. By assuming the peculiar arched position of the larvæ called Geometers, they leaped five or six feet when disturbed, according to the manager's account: these were also fortunately destroyed by flocks of the same birds—the Barbadoes blackbird; *Gracula quiscula* of Shaw, the *Quiscalus purpureus* of Stephens). I have added descriptions of the larvæ only, as I have had no opportunities of breeding the perfect insects. It must be recollected, my specimens were preserved in spirit.

1. *Larva of Sphinx labruscæ.* Fabr.

Body thick, $4\frac{1}{2}$ inches long, swollen anteriorly, with pale shagreen spots on the sides of the enlargement, and gradually attenuated towards the head.

Tail prominent, above unarmed, and slightly sloping backwards: *head* very small, brown: *legs* 6 small; prolegs 8 ventral, and 2 large anal ones: *back* dark brown, mottled, and divided from the paler sides by a strongly-marked angulated line; a pale pupillated spot on the tail, and a pale line on the neck. Though not possessed of striking colours, like many of its congeners, it is singularly and beautifully varied.

It is said by Madam Merian to be active in its motions, and exceedingly voracious.

2. *Moth.* Unknown.

Larva a geometer; length 2 inches; *body* brownish-yellow, very lengthened, sublinear: *head* rather large, globular, and, with the whole body, furnished with scattered hairs, and beautifully marked with many slightly waving, longitudinal, dark-brown lines, the two dorsal ones broader and darker; the segments often with irregular, transverse, brown fasciæ: *legs* 6; prolegs 4, subterminal; anal 2, receding from each other.

It is said that different species attack the canes in Tobago and some other colonies. I shall spare no pains in procuring specimens, and transmitting to the Society all the information I can obtain concerning these interesting but destructive creatures.

Hughes, in his *Natural History of Barbadoes*, p. 244, gives a short account of a yellow blast, which was injurious to the canes of that island. He does not attribute the diseased appearance of the plants to dry weather, but rather supposes it proceeds from swarms of minute insects, which feed on the juices of the tender blades, and wound and destroy the sap vessels; thus impeding the circulation and checking the growth of the cane, which, soon after the attack, withers, decays, or dies, in proportion to the injury inflicted. It is difficult, he says, to distinguish the blast in its infancy from the effects of dry weather; however, the first seasonable rain manifests the difference, as the uninfected cane alone reaps the benefit of it. At these times, he observed on the blades of sickly canes small protuberant knobs, of a soft, downy substance, containing white maggots, which (with very little probability) he supposes to produce moths. The authors of the evil were probably hosts of

aphides or coccidæ, and the “clamminess” he noticed doubtless was their saccharine excrement, so well known to attract the ants. The blast was more frequent in dry years. Wet seasons appeared to destroy the vermin, with their eggs. The blast was observed to appear during succeeding years on the same ground, and to spread faster to leeward, or with the wind. The infected canes, though partially recovered, afforded but little sugar, and of inferior quality. The remedy of brimstone, &c. which Hughes recommends so warmly, would, I fear, be only partially successful, and of little value.

St. Vincent, August 20, 1829.